

chain nodes :

13 14 15 16

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12

chain bonds :

4-16 6-13 10-13 11-14 14-15

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12

exact/norm bonds :

4-16 6-13 10-13 14-15

exact bonds :

11-14

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12

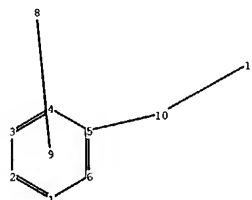
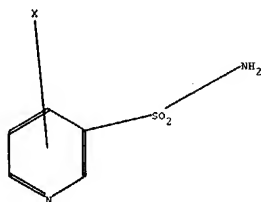
isolated ring systems :

containing 1 : 7 :

atch level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom
12:Atom 13:CLASS 14:CLASS 15:CLASS 16:CLASS

c:\stnweb\queries\5a.str



chain nodes :

8 10 11

ring nodes :

1 2 3 4 5 6

chain bonds :

5-10 10-11

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6

exact/norm bonds :

10-11

exact bonds :

5-10

normalized bonds :

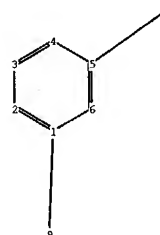
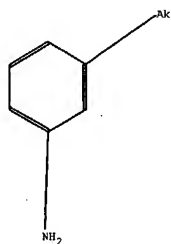
1-2 1-6 2-3 3-4 4-5 5-6

isolated ring systems :

containing 1 :

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 8:CLASS 9:CLASS 10:CLASS 11:CLASS



chain nodes :

8 9

ring nodes :

1 2 3 4 5 6

chain bonds :

1-9 5-8

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6

exact/norm bonds :

1-9 5-8

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6

isolated ring systems :

containing 1 :

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 8:CLASS 9:CLASS

* * * * * Welcome to STN International * * * * *

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America
 NEWS 2 "Ask CAS" for self-help around the clock
 NEWS 3 May 12 EXTEND option available in structure searching
 NEWS 4 May 12 Polymer links for the POLYLINK command completed in REGISTRY
 NEWS 5 May 27 New UPM (Update Code Maximum) field for more efficient patent
 SDIs in CAlus
 NEWS 6 May 27 CAlus super roles and document types searchable in REGISTRY
 NEWS 7 Jun 28 Additional enzyme-catalyzed reactions added to CASREACT
 NEWS 8 Jun 28 ANTE, AQUALINE, BIOENG, CIVILENG, ENVIROENG, MECHENG,
 and WATER from CSA now available on STN(R)
 NEWS 9 Jul 12 BEILSTEIN enhanced with new display and select options,
 resulting in a closer connection to BABS
 NEWS 10 Jul 30 BEILSTEIN on STN workshop to be held August 24 in conjunction
 with the 228th ACS National Meeting
 NEWS 11 AUG 02 IFIPAT/IFIUDB/IFICDB reloaded with new search and display
 fields
 NEWS 12 AUG 02 CAlus and CA patent records enhanced with European and Japan
 Patent Office Classifications
 NEWS 13 AUG 02 STN User Update to be held August 22 in conjunction with the
 228th ACS National Meeting
 NEWS 14 AUG 02 The Analysis Edition of STN Express with Discover!
 (Version 7.01 for Windows) now available
 NEWS 15 AUG 04 Pricing for the Save Answers for SciFinder Wizard within
 STN Express with Discover! will change September 1, 2004
 NEWS 16 AUG 27 BIOCOMMERCE: Changes and enhancements to content coverage
 NEWS 17 AUG 27 BIOTECHABS/BIOTECHDS: Two new display fields added for legal
 status data from INPADOC
 NEWS 18 SEP 01 INPADOC: New family current-awareness alert (SDI) available
 NEWS 19 SEP 01 New pricing for the Save Answers for SciFinder Wizard within
 STN Express with Discover!
 NEWS 20 SEP 01 New display format, HITSTR, available in WPIDS/WPINDEX/WPIX
 NEWS EXPRESS JULY 30 CURRENT WINDOWS VERSION IS V7.01, CURRENT
 MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
 AND CURRENT DISCOVER FILE IS DATED 11 AUGUST 2004
 NEWS HOURS STN Operating Hours Plus Help Desk Availability
 NEWS INTER General Internet Information
 NEWS LOGIN Welcome Banner and News Items
 NEWS PHONE Direct Dial and Telecommunication Network Access to STN
 NEWS WWW CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that
 specific topic.

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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 09:38:44 ON 07 SEP 2004

=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

h

eb c

g cg b

cg

eb

FILE 'REGISTRY' ENTERED AT 09:38:49 ON 07 SEP 2004
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STRUCTURE FILE UPDATES: 6 SEP 2004 HIGHEST RN 740796-45-6
 DICTIONARY FILE UPDATES: 6 SEP 2004 HIGHEST RN 740796-45-6

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when
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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
 information enter HELP PROP at an arrow prompt in the file or refer
 to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> file casreact

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	2.94	3.15

FILE 'CASREACT' ENTERED AT 09:43:04 ON 07 SEP 2004
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FILE CONTENT:1840 - 5 Sep 2004 VOL 141 ISS 10

```
*****
*
*   CASREACT now has more than 8 million reactions
*
*****
```

Some CASREACT records are derived from the ZIC/VINITI database (1974-1991)
 provided by InfoChem, INPI data prior to 1986, and Biotransformations
 database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance
 identification.

=>

L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR

=> s 11

SAMPLE SEARCH INITIATED 09:43:40 FILE 'CASREACT'
 SCREENING COMPLETE - 198 REACTIONS TO VERIFY FROM 2 DOCUMENTS

100.0% DONE 198 VERIFIED 0 HIT RXNS 0 DOCS
 SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
 BATCH **COMPLETE**

PROJECTED VERIFICATIONS: 3116 TO 4804
 PROJECTED ANSWERS: 0 TO 0

L2 0 SEA SSS SAM L1 (0 REACTIONS)

=> s 11 full

THE ESTIMATED SEARCH COST FOR FILE 'CASREACT' IS 102.30 U.S. DOLLARS
 DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
 FULL SEARCH INITIATED 09:43:47 FILE 'CASREACT'
 SCREENING COMPLETE - 308 REACTIONS TO VERIFY FROM 12 DOCUMENTS

100.0% DONE 308 VERIFIED 0 HIT RXNS 0 DOCS
 SEARCH TIME: 00.00.01

L3 0 SEA SSS FUL L1 (0 REACTIONS)

=>

L4 STRUCTURE UPLOADED

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	104.40	107.55

FILE 'REGISTRY' ENTERED AT 09:46:10 ON 07 SEP 2004
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STRUCTURE FILE UPDATES: 6 SEP 2004 HIGHEST RN 740796-45-6
 DICTIONARY FILE UPDATES: 6 SEP 2004 HIGHEST RN 740796-45-6

TSKA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when
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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
 information enter HELP PROP at an arrow prompt in the file or refer
 to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

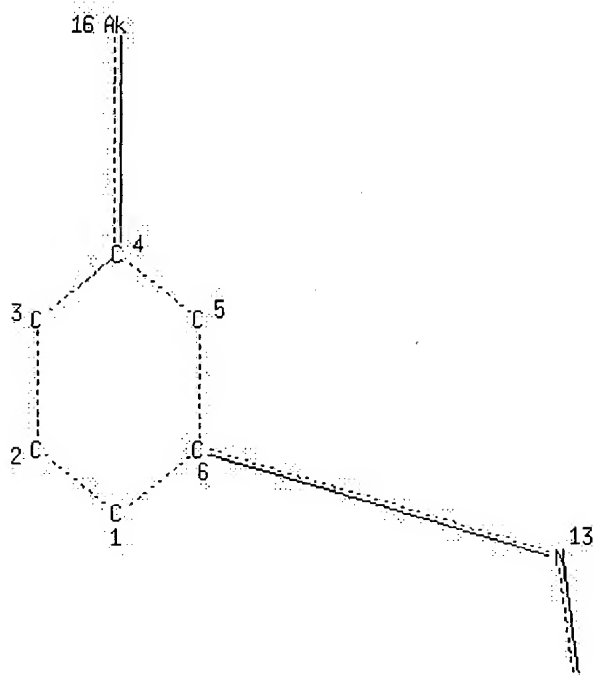
=>

L5 STRUCTURE UPLOADED

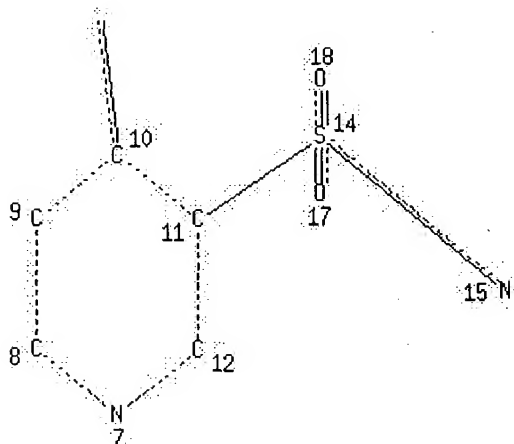
=> a 15

L5 HAS NO ANSWERS

L5 STR



Page 1-A



Page 2-A

M2

Page 2-B

NODE ATTRIBUTES:

HCOUNT	IS M2	AT	15
NSPEC	IS R	AT	1
NSPEC	IS R	AT	2
NSPEC	IS R	AT	3
NSPEC	IS R	AT	4
NSPEC	IS R	AT	5
NSPEC	IS R	AT	6
NSPEC	IS R	AT	7
NSPEC	IS R	AT	8
NSPEC	IS R	AT	9
NSPEC	IS R	AT	10
NSPEC	IS R	AT	11
NSPEC	IS R	AT	12
NSPEC	IS C	AT	13

NSPEC IS C AT 14
 NSPEC IS C AT 15
 NSPEC IS C AT 16
 NSPEC IS C AT 17
 NSPEC IS C AT 18
 DEFAULT MLEVEL IS ATOM
 MLEVEL IS CLASS AT 13 14 15 16 17 18
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RSPEC I
 NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE

=> s 15

SAMPLE SEARCH INITIATED 09:46:23 FILE 'REGISTRY'
 SAMPLE SCREEN SEARCH COMPLETED - 28 TO ITERATE

100.0% PROCESSED 28 ITERATIONS 0 ANSWERS
 SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
 BATCH **COMPLETE**
 PROJECTED ITERATIONS: 243 TO 877
 PROJECTED ANSWERS: 0 TO 0

L6 0 SEA SSS SAM L5

=> s 15 full

THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 155.00 U.S. DOLLARS
 DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
 FULL SEARCH INITIATED 09:46:27 FILE 'REGISTRY'
 FULL SCREEN SEARCH COMPLETED - 538 TO ITERATE

100.0% PROCESSED 538 ITERATIONS 8 ANSWERS
 SEARCH TIME: 00.00.01

L7 8 SEA SSS FUL L5

=> file hcaplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	155.42	262.97

FILE 'HCAPLUS' ENTERED AT 09:46:31 ON 07 SEP 2004
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FILE COVERS 1907 - 7 Sep 2004 VOL 141 ISS 11
FILE LAST UPDATED: 6 Sep 2004 (20040906/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l7/prep

23 L7
3192603 PREP/RL
L8 12 L7/PREP
(L7 (L) PREP/RL)

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	2.36	265.33

FILE 'REGISTRY' ENTERED AT 09:46:37 ON 07 SEP 2004
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STRUCTURE FILE UPDATES: 6 SEP 2004 HIGHEST RN 740796-45-6
DICTIONARY FILE UPDATES: 6 SEP 2004 HIGHEST RN 740796-45-6

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=>

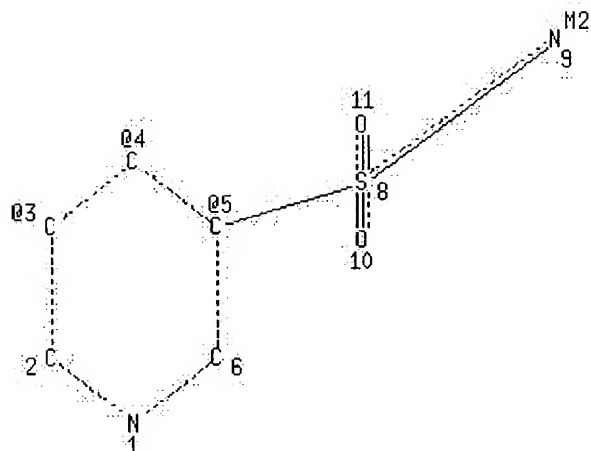
L9 STRUCTURE UPLOADED

=> d l9

L9 HAS NO ANSWERS

L9 STR

X.07



VPA 7-3/4/5 S

NODE ATTRIBUTES:

HCOUNT	IS M2	AT	9
NSPEC	IS R	AT	1
NSPEC	IS R	AT	2
NSPEC	IS R	AT	3
NSPEC	IS R	AT	4
NSPEC	IS R	AT	5
NSPEC	IS R	AT	6
NSPEC	IS C	AT	7
NSPEC	IS C	AT	8
NSPEC	IS C	AT	9
NSPEC	IS C	AT	10
NSPEC	IS C	AT	11

DEFAULT MLEVEL IS ATOM

MLEVEL IS CLASS AT 7 8 9 10 11

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE

=> s 19

SAMPLE SEARCH INITIATED 09:48:36 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 349 TO ITERATE

100.0% PROCESSED 349 ITERATIONS

1 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
 BATCH **COMPLETE**

PROJECTED ITERATIONS: 5860 TO 8100

PROJECTED ANSWERS: 1 TO 80

L10 1 SEA SSS SAM L9

=> s 19 full

h eb c g cg b cg

eb

THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 155.00 U.S. DOLLARS
 DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
 FULL SEARCH INITIATED 09:48:40 FILE 'REGISTRY'
 FULL SCREEN SEARCH COMPLETED - 7048 TO ITERATE

100.0% PROCESSED 7048 ITERATIONS 22 ANSWERS
 SEARCH TIME: 00.00.01

L11 22 SEA SSS FUL L9

=> file hcaplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	156.26	421.59

FILE 'HCAPLUS' ENTERED AT 09:48:42 ON 07 SEP 2004
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FILE COVERS 1907 - 7 Sep 2004 VOL 141 ISS 11
 FILE LAST UPDATED: 6 Sep 2004 (20040906/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l11/rct

42 L11
 2654685 RCT/RL
 L12 27 L11/RCT
 (L11 (L) RCT/RL)

=> d his

(FILE 'HOME' ENTERED AT 09:38:44 ON 07 SEP 2004)

FILE 'REGISTRY' ENTERED AT 09:38:49 ON 07 SEP 2004

FILE 'CASREACT' ENTERED AT 09:43:04 ON 07 SEP 2004

L1 STRUCTURE UPLOADED
 L2 0 S L1
 L3 0 S L1 FULL
 L4 STRUCTURE UPLOADED

FILE 'REGISTRY' ENTERED AT 09:46:10 ON 07 SEP 2004

L5 STRUCTURE UPLOADED
 L6 0 S L5
 L7 8 S L5 FULL

FILE 'HCAPLUS' ENTERED AT 09:46:31 ON 07 SEP 2004
L8 12 S L7/PREP

```

      FILE 'REGISTRY' ENTERED AT 09:46:37 ON 07 SEP 2004
L9          STRUCTURE UPLOADED
L10         1 S L9
L11        22 S L9 FULL

```

FILE 'HCAPLUS' ENTERED AT 09:48:42 ON 07 SEP 2004
L12 27 S L11/RCT

```
=> s 112 and 18
L13          9 L12 AND L8
```

=> file req		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	2.36	423.95

FILE 'REGISTRY' ENTERED AT 09:48:56 ON 07 SEP 2004
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```
STRUCTURE FILE UPDATES:      6 SEP 2004  HIGHEST RN 740796-45-6
DICTIONARY FILE UPDATES:    6 SEP 2004  HIGHEST RN 740796-45-6
```

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

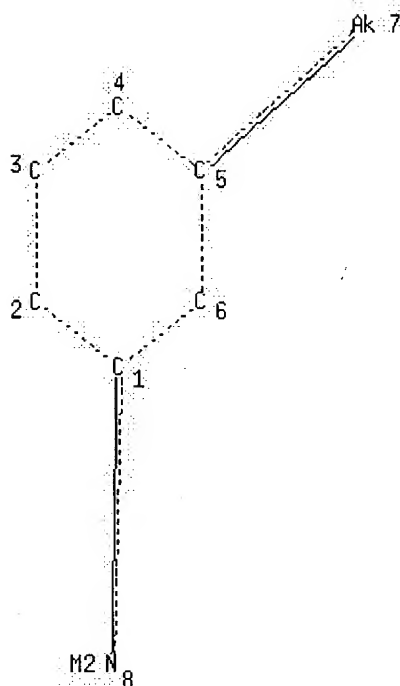
Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

```
=>
L14      STRUCTURE  UPLOADED
```

```
=> d 114
L14 HAS NO ANSWERS
L14                                STR
```



NODE ATTRIBUTES:

HCOUNT	IS	M2	AT	8
NSPEC	IS	R	AT	1
NSPEC	IS	R	AT	2
NSPEC	IS	R	AT	3
NSPEC	IS	R	AT	4
NSPEC	IS	R	AT	5
NSPEC	IS	R	AT	6
NSPEC	IS	C	AT	7
NSPEC	IS	C	AT	8
DEFAULT MLEVEL IS ATOM				
MLEVEL	IS	CLASS	AT	7 8
DEFAULT ECLEVEL IS LIMITED				

GRAPH ATTRIBUTES:

RSPEC I
NUMBER OF NODES IS 8

STEREO ATTRIBUTES: NONE

=> s l14

SAMPLE SEARCH INITIATED 09:50:25 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 286466 TO ITERATE

0.3% PROCESSED 1000 ITERATIONS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

8 ANSWERS

FULL FILE PROJECTIONS: ONLINE **INCOMPLETE**
BATCH **INCOMPLETE**
PROJECTED ITERATIONS: EXCEEDS 1000000
PROJECTED ANSWERS: EXCEEDS 42963

L15 8 SEA SSS SAM L14

=> m-toluidine/cn

h eb c g cg b cg

eb

```

E1      1      M-TOLUIC-.ALPHA.,.ALPHA.,.ALPHA.-D3 ACID, 2-NITRO-/CN
E2      1      M-TOLUIC-CARBOXY-14C ACID/CN
E3      1 --> M-TOLUIDINE/CN
E4      1      M-TOLUIDINE .OMEGA.-METHANESULFONATE/CN
E5      1      M-TOLUIDINE 1:1 COMPLEX WITH IODINE/CN
E6      1      M-TOLUIDINE COMPLEX WITH P-BENZOQUINONE (1:1)/CN
E7      1      M-TOLUIDINE COMPOUND WITH S-TRINITROBENZENE (1:1)/CN
E8      1      M-TOLUIDINE HOMOPOLYMER/CN
E9      1      M-TOLUIDINE NITRATE/CN
E10     1      M-TOLUIDINE, ((2-CHLORO-4-(METHYLSULFONYL) PHENYL) AZO) -N,N-DI
          METHYL-/CN
E11     1      M-TOLUIDINE, (2,4-THIOPHENEDIYLBIS (AZO)) DI-/CN
E12     1      M-TOLUIDINE, .ALPHA.,.ALPHA.,.ALPHA.,-TRIFLUORO-6-((O-NITROP
          HENYL) THIO)-/CN

```

=> s a3

L16 1 M-TOLUIDINE/CN

=> file hcapius

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

5.69

429.64

FILE 'HCAPLUS' ENTERED AT 09:50:42 ON 07 SEP 2004

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FILE COVERS 1907 - 7 Sep 2004 VOL 141 ISS 11

FILE LAST UPDATED: 6 Sep 2004 (20040906/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l16

L17 4779 L16

=> d his

(FILE 'HOME' ENTERED AT 09:38:44 ON 07 SEP 2004)

FILE 'REGISTRY' ENTERED AT 09:38:49 ON 07 SEP 2004

FILE 'CASREACT' ENTERED AT 09:43:04 ON 07 SEP 2004

L1 STRUCTURE UPLOADED

L2 0 S L1

L3 0 S L1 FULL

L4 STRUCTURE UPLOADED

FILE 'REGISTRY' ENTERED AT 09:46:10 ON 07 SEP 2004

L5 STRUCTURE UPLOADED
L6 0 S L5
L7 8 S L5 FULL

FILE 'HCAPLUS' ENTERED AT 09:46:31 ON 07 SEP 2004

L8 12 S L7/PREP

FILE 'REGISTRY' ENTERED AT 09:46:37 ON 07 SEP 2004

L9 STRUCTURE UPLOADED
L10 1 S L9
L11 22 S L9 FULL

FILE 'HCAPLUS' ENTERED AT 09:48:42 ON 07 SEP 2004

L12 27 S L11/RCT
L13 9 S L12 AND L8

FILE 'REGISTRY' ENTERED AT 09:48:56 ON 07 SEP 2004

L14 STRUCTURE UPLOADED
L15 8 S L14
E M-TOLUIDINE/CN
L16 1 S E3

FILE 'HCAPLUS' ENTERED AT 09:50:42 ON 07 SEP 2004

L17 4779 S L16

=> s l17 and l13

L18 5 L17 AND L13

=> d l18, ibib abs hitstr, 1-5

L18 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2004 ACS on STN

Full
Text References

ACCESSION NUMBER: 2003:931332 HCAPLUS
DOCUMENT NUMBER: 139:395829
TITLE: Process for the preparation of highly pure torsemide
INVENTOR(S): Gutman, Arie; Etinger, Marina; Goldring, Dmitry;
Pertsikov, Boris; Yudovitch, Lev; Tishin, Boris;
Vilensky, Alexander; Glozman, Alexander; Nisnevich,
Gennady
PATENT ASSIGNEE(S): Finetech Laboratories Ltd., Israel
SOURCE: PCT Int. Appl., 63 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003097603	A1	20031127	WO 2003-IL311	20030415
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC,
NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

IL 2002-149771

A 20020521

OTHER SOURCE(S):

CASREACT 139:395829

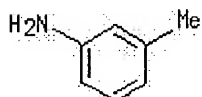
AB The present invention provides a novel process for the prepn. of highly pure torsemide by reacting of 4-m-tolylamino-3-pyridinesulfonamide with Ph isopropylcarbamate in the presence of lithium base. The present invention also provides a novel intermediate - torsemide lithium, also in hydrate or solvate form - which is a stable, solid compd., and may be simply isolated from the reaction mixt. to give after acidification practically pure torsemide without further purifn. steps.

IT 108-44-1, m-Toluidine, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
(in prepn. of highly pure torsemide)

RN 108-44-1 HCAPLUS

CN Benzenamine, 3-methyl- (9CI) (CA INDEX NAME)



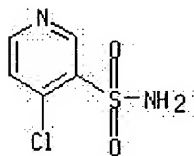
IT 33263-43-3P, 4-Chloro-3-pyridinesulfonamide 72811-73-5P

160822-47-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(in prepn. of highly pure torsemide)

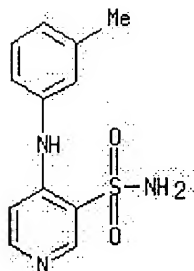
RN 33263-43-3 HCAPLUS

CN 3-Pyridinesulfonamide, 4-chloro- (8CI, 9CI) (CA INDEX NAME)



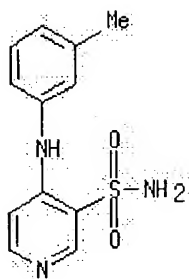
RN 72811-73-5 HCAPLUS

CN 3-Pyridinesulfonamide, 4-[(3-methylphenyl)amino]- (9CI) (CA INDEX NAME)



RN 160822-47-9 HCAPLUS

CN 3-Pyridinesulfonamide, 4-[(3-methylphenyl)amino]-, monohydrochloride (9CI)
(CA INDEX NAME)



HCl

REFERENCE COUNT:

3

THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text	Cited References
--------------	---------------------

ACCESSION NUMBER: 2003:311134 HCAPLUS

DOCUMENT NUMBER: 139:197336

TITLE: Synthesis of a new, curative and effective medicine
for hypertension and diuretic torasemide

AUTHOR(S): Xiong, Zhenhu; Fei, Xuening

CORPORATE SOURCE: Tianjin Institute of Urban Construction, Tianjin,
300384, Peop. Rep. ChinaSOURCE: Zhongguo Yaowu Huaxue Zazhi (2002), 12(4), 219-221,
224

CODEN: ZYHZEJ; ISSN: 1005-0108

PUBLISHER: Zhongguo Yaowu Huaxue Zazhi Bianjibu

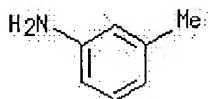
DOCUMENT TYPE: Journal

LANGUAGE: Chinese

OTHER SOURCE(S): CASREACT 139:197336

AB Torasemide was prepd. in 5 steps with high yield from 4-hydroxypyridine by
sulfonation, chlorination, amidation, substitution with 3-methylaniline,
and condensation with iso-Pr isocyanate.IT 108-44-1, m-Toluidine, reactionsRL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of torasemide)RN 108-44-1 HCAPLUS

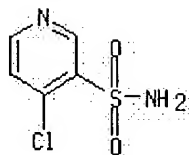
CN Benzenamine, 3-methyl- (9CI) (CA INDEX NAME)

IT 33263-43-3P, 4-Chloropyridine-3-sulfonamide 72811-73-5P,

3-Pyridinesulfonamide, 4-[(3-methylphenyl)amino]-

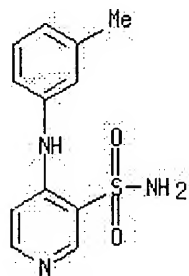
RL: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(synthesis of torasemide)RN 33263-43-3 HCAPLUS

CN 3-Pyridinesulfonamide, 4-chloro- (8CI, 9CI) (CA INDEX NAME)



RN 72811-73-5 HCAPLUS

CN 3-Pyridinesulfonamide, 4-[(3-methylphenyl)amino]- (9CI) (CA INDEX NAME)



L18 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text	References
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ACCESSION NUMBER: 1995:301468 HCAPLUS

DOCUMENT NUMBER: 122:105616

TITLE: Chemical structure and physico-chemical properties of torasemide

AUTHOR(S): Kondo, Nobuo; Kimura, Masazo; Yamamoto, Madoka; Hashimoto, Hirotaka; Kawamata, Ken-ichiro; Kawano, Kensuke; Schmidt, Heinrich

CORPORATE SOURCE: New Product Res. Laboratories, Green Cross Corp., Hirakata, 573, Japan

SOURCE: Iyakuhin Kenkyu (1994), 25(9), 734-50
CODEN: IYKEDH; ISSN: 0287-0894

PUBLISHER: Nippon Koteisho Kyokai

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

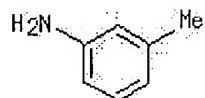
AB The chem. structure of torasemide, a diuretic agent, was confirmed on the basis of elemental anal., UV, IR, NMR and mass spectra. The physico-chem. properties were clarified by studying the appearance, soly., hygroscopicity, photo-stability, m.p., thermal anal., pH of aq. soln., dissocn. const., partition coeff., polymorphism, specific optical rotation and impurities. Investigations into the stability of torasemide under severe conditions were also conducted to define the degradative pathway for the compd.

IT 108-44-1, reactions 33263-43-3, 4-Chloropyridine-3-sulfonamide

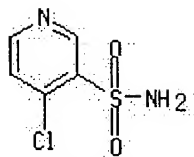
RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(synthesis and physico-chem. properties of torasemide)

RN 108-44-1 HCAPLUS

CN Benzenamine, 3-methyl- (9CI) (CA INDEX NAME)

RN 33263-43-3 HCAPLUS

CN 3-Pyridinesulfonamide, 4-chloro- (8CI, 9CI) (CA INDEX NAME)



IT 72811-73-5P 160822-47-9P

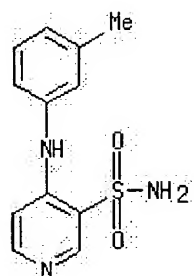
RL: RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)

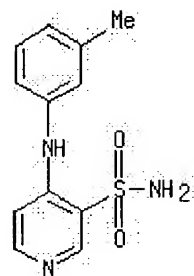
(synthesis and physico-chem. properties of torasemide)

RN 72811-73-5 HCAPLUS

CN 3-Pyridinesulfonamide, 4-[(3-methylphenyl)amino]- (9CI) (CA INDEX NAME)



RN 160822-47-9 HCAPLUS

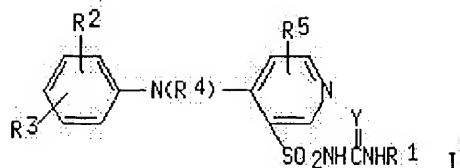
CN 3-Pyridinesulfonamide, 4-[(3-methylphenyl)amino]-, monohydrochloride (9CI)
(CA INDEX NAME)

HCl

L18 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2004 ACS on STN



ACCESSION NUMBER: 1988:160942 HCAPLUS
 DOCUMENT NUMBER: 108:160942
 TITLE: Chemistry and pharmacological properties of the
 pyridine-3-sulfonylurea derivative torasemide
 Delarge, J.
 AUTHOR(S):
 CORPORATE SOURCE: Inst. Pharm., State Univ. Liege, Liege, B-4000, Belg.
 SOURCE: Arzneimittel-Forschung (1988), 38(1A), 144-50
 CODEN: ARZNAD; ISSN: 0004-4172
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 108:160942
 GI

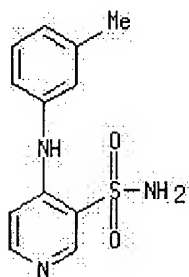


AB Out of a series of pyridine-3-sulfonylureas (I; R1 = Me, Et, Pr, etc.; R2 = 3-CF3, 3-NO2, 3-MeO, 3-Me, 3-Et, 2-, 3-, 4-Cl, etc.; R3 = H or 4-, 5-Cl; R4 = R5 = H or Me; Y = O or S) with diuretic activity torasemide (I; R1 = i-Pr, R2 = 3-Me, R3 = R4 = R5 = H, Y = O), which was prepd., proved to be one of the most active derivs. In the rat, urinary vol. and electrolyte excretions increased linearly with the logarithm of the dose, thus resembling the profile of a high ceiling diuretic. Torasemide was equally potent both by oral and parenteral administration. Compared to furosemide, torasemide was 9-40 times more potent on wt. basis in the rat. For the same natriuretic effect, however, K⁺ losses with torasemide were less than with furosemide. The diuretic effect of torasemide lasted longer than that of furosemide. The plasma elimination half-life of torasemide was ~1.5 h in the rat and bioavailability was nearly complete. Torasemide was 98-99% bound to plasma proteins. No in vitro interaction was found with the coumarin deriv. warfarin.

IT 72811-73-5P, 3-Sulfonamido-4-(3-methylanilino)pyridine
 RL: RCT (Reactant); SPN (Synthetic preparation); **PREP**
 (Preparation); RACT (Reactant or reagent)
 (prepn. and reaction with isopropylcyanate)

RN 72811-73-5 HCAPLUS

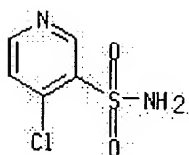
CN 3-Pyridinesulfonamide, 4-[(3-methylphenyl)amino]- (9CI) (CA INDEX NAME)



IT 33263-43-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); **PREP**
 (Preparation); RACT (Reactant or reagent)
 (prepn. and reaction with toluidine or isopropylcyanate)

RN 33263-43-3 HCAPLUS

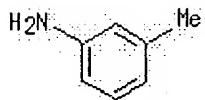
CN 3-Pyridinesulfonamide, 4-chloro- (8CI, 9CI) (CA INDEX NAME)



IT 108-44-1, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with chloropyridinesulfonamide or
 isopropylchloropyridylsulfonylurea)

RN 108-44-1 HCAPLUS

CN Benzenamine, 3-methyl- (9CI) (CA INDEX NAME)



L18 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text	Chem References
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ACCESSION NUMBER: 1976:59218 HCAPLUS
 DOCUMENT NUMBER: 84:59218
 TITLE: Pyridine derivatives
 INVENTOR(S): Delarge, Jacques E.; Lapiere, Charles L.; Georges, Andre H.
 PATENT ASSIGNEE(S): Christiaens, A., S. A., Belg.
 SOURCE: Ger. Offen., 39 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
<u>DE 2516025</u>	A1	19751106	<u>DE 1975-2516025</u>	19750412
<u>DE 2516025</u>	C2	19881103		
<u>ZA 7502243</u>	A	19760331	<u>ZA 1975-2243</u>	19750408
<u>BE 827844</u>	A1	19751013	<u>BE 1975-155330</u>	19750411
<u>ES 436581</u>	A1	19770401	<u>ES 1975-436581</u>	19750414
<u>IL 47084</u>	A1	19790131	<u>IL 1975-47084</u>	19750414
<u>SE 7504409</u>	A	19751020	<u>SE 1975-4409</u>	19750416
<u>SE 424320</u>	B	19820712		
<u>SE 424320</u>	C	19821021		
<u>NL 7504521</u>	A	19751021	<u>NL 1975-4521</u>	19750416
<u>NL 183580</u>	B	19880701		
<u>NL 183580</u>	C	19881201		
<u>FR 2267775</u>	A1	19751114	<u>FR 1975-11791</u>	19750416
<u>FR 2267775</u>	B1	19781110		
<u>US 4018929</u>	A	19770419	<u>US 1975-568759</u>	19750416
<u>AT 7562882</u>	A	19771115	<u>AT 1975-2882</u>	19750416
<u>AT 345832</u>	B	19781010	<u>AT 1977-1898</u>	19750416
<u>CH 609045</u>	A	19790215	<u>CH 1975-4857</u>	19750416
<u>CH 610890</u>	A	19790515	<u>CH 1978-2163</u>	19750416
<u>CH 612424</u>	A	19790731	<u>CH 1978-2164</u>	19750416
<u>CA 1070313</u>	A1	19800122	<u>CA 1975-224805</u>	19750416
<u>JP 50142571</u>	A2	19751117	<u>JP 1975-47371</u>	19750417
<u>JP 59051536</u>	B4	19841214		
<u>DD 121936</u>	C	19760905	<u>DD 1975-185508</u>	19750417
<u>DD 126887</u>	C	19770817	<u>DD 1975-194800</u>	19750417
<u>US 4042693</u>	A	19770816	<u>US 1976-694422</u>	19760609
<u>US 4055650</u>	A	19771025	<u>US 1976-694421</u>	19760609
<u>ES 453328</u>	A1	19771101	<u>ES 1976-453328</u>	19761115
<u>ES 453327</u>	A1	19771116	<u>ES 1976-453327</u>	19761115
<u>ES 453329</u>	A1	19771116	<u>ES 1976-453329</u>	19761115
<u>AT 7701899</u>	A	19771115	<u>AT 1977-1899</u>	19770318
<u>AT 7701897</u>	A	19771115	<u>AT 1977-1897</u>	19770318
<u>SE 7907618</u>	A	19790913	<u>SE 1979-7618</u>	19790913
<u>US 30633</u>	E	19810602	<u>US 1980-119601</u>	19800207

PRIORITY APPLN. INFO.:

<u>GB 1974-16836</u>	19740417
<u>GB 1975-16836</u>	19750414
<u>AT 1975-2882</u>	19750416
<u>US 1975-568759</u>	19750416
<u>US 1979-31101</u>	19790418

GI For diagram(s), see printed CA Issue.

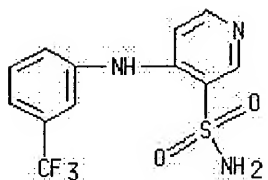
AB Pyridinesulfonamides I [R = C₆H₄R₃ (R₃ = Cl, F₃C, Me, MeO, H, Br, F, NO₂, Et, NH₂), Et, iso-Pr, 4-methylfuryl, C₆H₃Cl₂, C₆H₃(CF₃)Cl; R₁ = alkylcarbamoyl, cyclohexylcarbamoyl, CSNHCH₂CH:CH₂, CONHPh, CONHC₆H₄Cl-p, alkylthiocarbamoyl, H, COEt; R₂ = H, Me; X = NH, NMe, O, S, NEt; n = 0, 1], useful as inflammation inhibitors and diuretics, were prepd. by various methods, e.g., treatment of I (R₁ = H) with an isocyanate or isothiocyanate. Reaction of I (R₁ = H) with an alkyl haloformate, then with an amine, gave I (R₁ = substituted carbamoyl). II reacted with amines R₅NHR to give I (X = NH, NMe, NEt). II was treated with NaXR (R = substituted phenyl, X = O, S) to give the corresponding I. To prep. I (R₁ = acyl) or pyridothiadiazole III, I (R₁ = H) was reacted with EtCOCl, (EtCO)₂O, or BzCl. Treatment of I (R = alkylthiocarbamoyl) with aq. alc. Na₂CO₃ and HgO gave I (R₁ = alkylcarbamoyl). Oxidn. of I (n = 0) gave I (n = 1). I caused 1.6-92.0% inhibition of carrageenan-induced edema in rats [best results by I (R = 3,4-Cl₂C₆H₃, R₁ = CONHCHMe₂, X = NH, R₂ = H, n = 0)] and caused 3.6-106.4 mg/kg increase in urine of rats [best results by I (R = 3-F₃CC₆H₄, R₁ = CONHEt, X = NH, R₂ = H, n = 1)].

IT 38030-43-2P

RL: RCT (Reactant); SPN (Synthetic preparation); **PREP**
(Preparation); RACT (Reactant or reagent)
 (prepn. and reactions of)

RN 38030-43-2 HCAPLUS

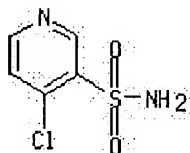
CN 3-Pyridinesulfonamide, 4-[[3-(trifluoromethyl)phenyl]amino]- (9CI) (CA INDEX NAME)

IT 33263-43-3

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with chlorophenol)

RN 33263-43-3 HCAPLUS

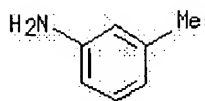
CN 3-Pyridinesulfonamide, 4-chloro- (8CI, 9CI) (CA INDEX NAME)

IT 108-44-1

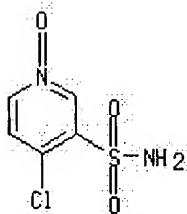
RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with chloropyridinesulfonamide oxide)

RN 108-44-1 HCAPLUS

CN Benzenamine, 3-methyl- (9CI) (CA INDEX NAME)

IT 58155-57-0RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(reaction of, with toluidine)RN 58155-57-0 HCAPLUS

CN 3-Pyridinesulfonamide, 4-chloro-, 1-oxide (9CI) (CA INDEX NAME)



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(FILE 'HOME' ENTERED AT 09:38:44 ON 07 SEP 2004)

FILE 'REGISTRY' ENTERED AT 09:38:49 ON 07 SEP 2004

FILE 'CASREACT' ENTERED AT 09:43:04 ON 07 SEP 2004

L1 STRUCTURE UPLOADED

L2 0 S L1

L3 0 S L1 FULL

L4 STRUCTURE UPLOADED

FILE 'REGISTRY' ENTERED AT 09:46:10 ON 07 SEP 2004

L5 STRUCTURE UPLOADED

L6 0 S L5

L7 8 S L5 FULL

FILE 'HCAPLUS' ENTERED AT 09:46:31 ON 07 SEP 2004

L8 12 S L7/PREP

FILE 'REGISTRY' ENTERED AT 09:46:37 ON 07 SEP 2004

L9 STRUCTURE UPLOADED

L10 1 S L9

L11 22 S L9 FULL

FILE 'HCAPLUS' ENTERED AT 09:48:42 ON 07 SEP 2004

L12 27 S L11/RCT

L13 9 S L12 AND L8

FILE 'REGISTRY' ENTERED AT 09:48:56 ON 07 SEP 2004

L14 STRUCTURE UPLOADED

L15 8 S L14

E M-TOLUIDINE/CN

L16 1 S E3

FILE 'HCAPLUS' ENTERED AT 09:50:42 ON 07 SEP 2004

L17 4779 S L16

L18 5 S L17 AND L13

=> s l18 and che, d?/au

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159 CHE, D?/AU
L19      0 L18 AND CHE, D?/AU

=> s 118 and guntoori, b?/au
      5 GUNTOORI, B?/AU
L20      0 L18 AND GUNTOORI, B?/AU

=> s 118 and duncan, s?/au
      244 DUNCAN, S?/AU
L21      0 L18 AND DUNCAN, S?/AU

=>
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NEWS 3 May 12 EXTEND option available in structure searching
NEWS 4 May 12 Polymer links for the POLYLINK command completed in REGISTRY
NEWS 5 May 27 New UPM (Update Code Maximum) field for more efficient patent SDIs in CAPlus
NEWS 6 May 27 CAPlus super roles and document types searchable in REGISTRY
NEWS 7 Jun 28 Additional enzyme-catalyzed reactions added to CASREACT
NEWS 8 Jun 28 ANTE, AQUALINE, BIOENG, CIVILENG, ENVIROENG, MECHENG, and WATER from CSA now available on STN(R)
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NEWS 12 AUG 02 CAPlus and CA patent records enhanced with European and Japan Patent Office Classifications
NEWS 13 AUG 02 STN User Update to be held August 22 in conjunction with the 228th ACS National Meeting
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NEWS 15 AUG 04 Pricing for the Save Answers for SciFinder Wizard within STN Express with Discover! will change September 1, 2004
NEWS 16 AUG 27 BIOCOMMERCE: Changes and enhancements to content coverage
NEWS 17 AUG 27 BIOTECHABS/BIOTECHDS: Two new display fields added for legal status data from INPADOC
NEWS 18 SEP 01 INPADOC: New family current-awareness alert (SDI) available
NEWS 19 SEP 01 New pricing for the Save Answers for SciFinder Wizard within STN Express with Discover!
NEWS 20 SEP 01 New display format, HITSTR, available in WPIDS/WPINDEX/WPIX
NEWS EXPRESS JULY 30 CURRENT WINDOWS VERSION IS V7.01, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 11 AUGUST 2004
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 DICTIONARY FILE UPDATES: 6 SEP 2004 HIGHEST RN 740796-45-6

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<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> file casreact

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	2.94	3.15

FILE 'CASREACT' ENTERED AT 09:43:04 ON 07 SEP 2004
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 26, 1996), unless otherwise indicated in the original publications.

FILE CONTENT:1840 - 5 Sep 2004 VOL 141 ISS 10

```
*****
*
*      CASREACT now has more than 8million reactions
*
*****
```

Some CASREACT records are derived from the ZIC/VINITI database (1974-1991)
 provided by InfoChem, INPI data prior to 1986, and Biotransformations
 database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance
 identification.

=>

L1 STRUCTURE UPLOADED

=> cl l1

L1 HAS NO ANSWERS

L1 STR

=> s l1

SAMPLE SEARCH INITIATED 09:43:40 FILE 'CASREACT'
 SCREENING COMPLETE - 198 REACTIONS TO VERIFY FROM 2 DOCUMENTS

100.0% DONE 198 VERIFIED 0 HIT RXNS 0 DOCS
 SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
 BATCH **COMPLETE**
 PROJECTED VERIFICATIONS: 3116 TO 4804
 PROJECTED ANSWERS: 0 TO 0

L2 0 SEA SSS SAM L1 (0 REACTIONS)

=> s l1 full

THE ESTIMATED SEARCH COST FOR FILE 'CASREACT' IS 102.30 U.S. DOLLARS
 DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
 FULL SEARCH INITIATED 09:43:47 FILE 'CASREACT'
 SCREENING COMPLETE - 308 REACTIONS TO VERIFY FROM 12 DOCUMENTS

100.0% DONE 308 VERIFIED 0 HIT RXNS 0 DOCS
 SEARCH TIME: 00.00.01

L3 0 SEA SSS FUL L1 (0 REACTIONS)

=>

L4 STRUCTURE UPLOADED

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	104.40	107.55

FILE 'REGISTRY' ENTERED AT 09:46:10 ON 07 SEP 2004
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STRUCTURE FILE UPDATES: 6 SEP 2004 HIGHEST RN 740796-45-6
 DICTIONARY FILE UPDATES: 6 SEP 2004 HIGHEST RN 740796-45-6

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when
 conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
 information enter HELP PROP at an arrow prompt in the file or refer
 to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

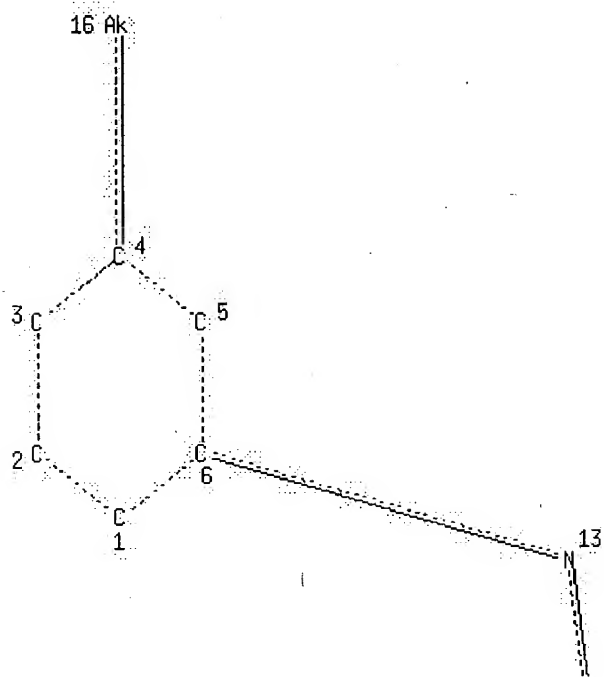
=>

L5 STRUCTURE UPLOADED

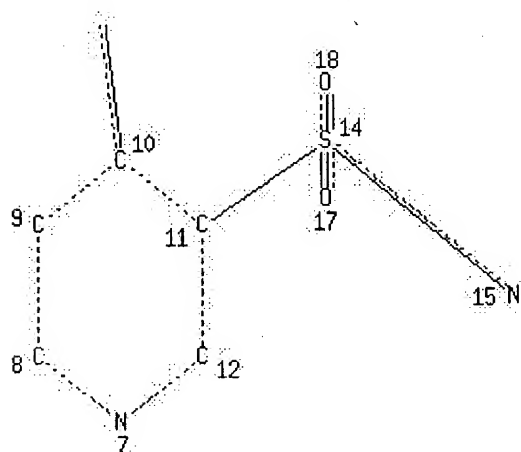
=> d l5

L5 HAS NO ANSWERS

L5 STR



Page 1-A



Page 2-A

M2

Page 2-B

NODE ATTRIBUTES:

HCOUNT	IS M2	AT	15
NSPEC	IS R	AT	1
NSPEC	IS R	AT	2
NSPEC	IS R	AT	3
NSPEC	IS R	AT	4
NSPEC	IS R	AT	5
NSPEC	IS R	AT	6
NSPEC	IS R	AT	7
NSPEC	IS R	AT	8
NSPEC	IS R	AT	9
NSPEC	IS R	AT	10
NSPEC	IS R	AT	11
NSPEC	IS R	AT	12
NSPEC	IS C	AT	13

NSPEC IS C AT 14
 NSPEC IS C AT 15
 NSPEC IS C AT 16
 NSPEC IS C AT 17
 NSPEC IS C AT 18
 DEFAULT MLEVEL IS ATOM
 MLEVEL IS CLASS AT 13 14 15 16 17 18
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC I
 NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE

=> s 15

SAMPLE SEARCH INITIATED 09:46:23 FILE 'REGISTRY'
 SAMPLE SCREEN SEARCH COMPLETED - 28 TO ITERATE

100.0% PROCESSED 28 ITERATIONS 0 ANSWERS
 SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
 BATCH **COMPLETE**
 PROJECTED ITERATIONS: 243 TO 877
 PROJECTED ANSWERS: 0 TO 0

L6 0 SEA SSS SAM L5

=> s 15 full

THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 155.00 U.S. DOLLARS
 DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
 FULL SEARCH INITIATED 09:46:27 FILE 'REGISTRY'
 FULL SCREEN SEARCH COMPLETED - 538 TO ITERATE

100.0% PROCESSED 538 ITERATIONS 8 ANSWERS
 SEARCH TIME: 00.00.01

L7 8 SEA SSS FUL L5

=> file hcaplus

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	155.42	262.97

FILE 'HCAPLUS' ENTERED AT 09:46:31 ON 07 SEP 2004
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FILE COVERS 1907 - 7 Sep 2004 VOL 141 ISS 11
FILE LAST UPDATED: 6 Sep 2004 (20040906/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l7/prop

23 L7

3192603 PREP/RL

L8

12 L7/PREP

(L7 (L) PREP/RL)

=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

2.36

265.33

FILE 'REGISTRY' ENTERED AT 09:46:37 ON 07 SEP 2004

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STRUCTURE FILE UPDATES: 6 SEP 2004 HIGHEST RN 740796-45-6

DICTIONARY FILE UPDATES: 6 SEP 2004 HIGHEST RN 740796-45-6

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See [HELP CROSSOVER](#) for details.

Experimental and calculated property data are now available. For more information enter [HELP PROP](#) at an arrow prompt in the file or refer to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

=>

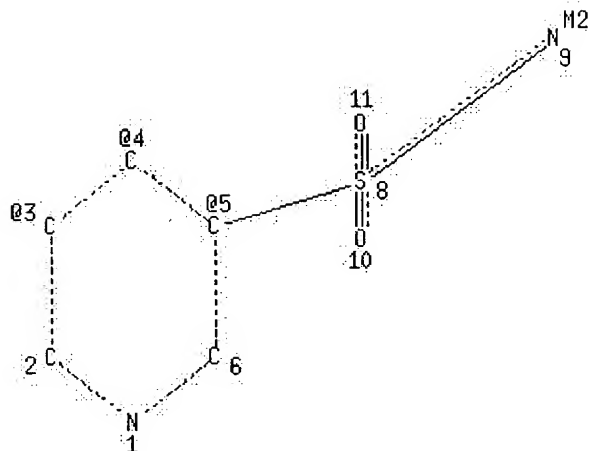
L9 STRUCTURE UPLOADED

=> d l9

L9 HAS NO ANSWERS

L9 STR

X.07



VPA 7-3/4/5 S

NODE ATTRIBUTES:

HCOUNT	IS M2	AT	9
NSPEC	IS R	AT	1
NSPEC	IS R	AT	2
NSPEC	IS R	AT	3
NSPEC	IS R	AT	4
NSPEC	IS R	AT	5
NSPEC	IS R	AT	6
NSPEC	IS C	AT	7
NSPEC	IS C	AT	8
NSPEC	IS C	AT	9
NSPEC	IS C	AT	10
NSPEC	IS C	AT	11

DEFAULT MLEVEL IS ATOM

MLEVEL IS CLASS AT 7 8 9 10 11

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE

=> s 19

SAMPLE SEARCH INITIATED 09:48:36 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 349 TO ITERATE

100.0% PROCESSED 349 ITERATIONS

1 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:	ONLINE	**COMPLETE**
	BATCH	**COMPLETE**

PROJECTED ITERATIONS: 5860 TO 8100

PROJECTED ANSWERS: 1 TO 80

L10 1 SEA SSS SAM L9

=> s 19 full

h eb c g cg b cg

eb

THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 155.00 U.S. DOLLARS
 DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y
 FULL SEARCH INITIATED 09:48:40 FILE 'REGISTRY'
 FULL SCREEN SEARCH COMPLETED - 7048 TO ITERATE

100.0% PROCESSED 7048 ITERATIONS 22 ANSWERS
 SEARCH TIME: 00.00.01

L11 22 SEA SSS FUL L9

=> file hcaplus
 COST IN U.S. DOLLARS SINCE FILE TOTAL
 ENTRY SESSION
 FULL ESTIMATED COST 156.26 421.59

FILE 'HCAPLUS' ENTERED AT 09:48:42 ON 07 SEP 2004
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FILE COVERS 1907 - 7 Sep 2004 VOL 141 ISS 11
 FILE LAST UPDATED: 6 Sep 2004 (20040906/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l11/rct
 42 L11
 2654685 RCT/RL
 L12 27 L11/RCT
 (L11 (L) RCT/RL)

=> d his

(FILE 'HOME' ENTERED AT 09:38:44 ON 07 SEP 2004)

FILE 'REGISTRY' ENTERED AT 09:38:49 ON 07 SEP 2004

FILE 'CASREACT' ENTERED AT 09:43:04 ON 07 SEP 2004

L1 STRUCTURE UPLOADED
 L2 0 S L1
 L3 0 S L1 FULL
 L4 STRUCTURE UPLOADED

FILE 'REGISTRY' ENTERED AT 09:46:10 ON 07 SEP 2004

L5 STRUCTURE UPLOADED
 L6 0 S L5
 L7 8 S L5 FULL

FILE 'HCAPLUS' ENTERED AT 09:46:31 ON 07 SEP 2004
L8 12 S L7/PREP

FILE 'REGISTRY' ENTERED AT 09:46:37 ON 07 SEP 2004
L9 STRUCTURE UPLOADED
L10 1 S L9
L11 22 S L9 FULL

FILE 'HCAPLUS' ENTERED AT 09:48:42 ON 07 SEP 2004
L12 27 S L11/RCT

=> s l12 and l8
L13 9 L12 AND L8

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	2.36	423.95

FILE 'REGISTRY' ENTERED AT 09:48:56 ON 07 SEP 2004
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STRUCTURE FILE UPDATES: 6 SEP 2004 HIGHEST RN 740796-45-6
DICTIONARY FILE UPDATES: 6 SEP 2004 HIGHEST RN 740796-45-6

TS/CA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

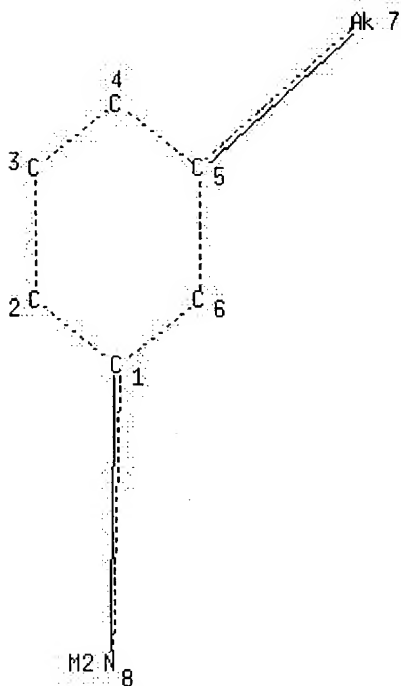
Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=>
L14 STRUCTURE UPLOADED

=> d l14
L14 HAS NO ANSWERS
L14 STR



NODE ATTRIBUTES:

HCOUNT	IS M2	AT	8
NSPEC	IS R	AT	1
NSPEC	IS R	AT	2
NSPEC	IS R	AT	3
NSPEC	IS R	AT	4
NSPEC	IS R	AT	5
NSPEC	IS R	AT	6
NSPEC	IS C	AT	7
NSPEC	IS C	AT	8

DEFAULT MLEVEL IS ATOM
 MLEVEL IS CLASS AT 7 8
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC I
 NUMBER OF NODES IS 8

STEREO ATTRIBUTES: NONE

=> s l14

SAMPLE SEARCH INITIATED 09:50:25 FILE 'REGISTRY'
 SAMPLE SCREEN SEARCH COMPLETED - 286466 TO ITERATE

0.3% PROCESSED 1000 ITERATIONS
 INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
 SEARCH TIME: 00.00.01

8 ANSWERS

FULL FILE PROJECTIONS: ONLINE **INCOMPLETE**
 BATCH **INCOMPLETE**
 PROJECTED ITERATIONS: EXCEEDS 1000000
 PROJECTED ANSWERS: EXCEEDS 42963

L15 8 SEA SSS SAM L14

=> e m-toluidine/cn

```

E1      1      M-TOLUIC-.ALPHA.,.ALPHA.,.ALPHA.-D3 ACID, 2-NITRO-/CN
E2      1      M-TOLUIC-CARBOXY-14C ACID/CN
E3      1  --> M-TOLUIDINE/CN
E4      1      M-TOLUIDINE .OMEGA.-METHANESULFONATE/CN
E5      1      M-TOLUIDINE 1:1 COMPLEX WITH IODINE/CN
E6      1      M-TOLUIDINE COMPLEX WITH P-BENZOQUINONE (1:1)/CN
E7      1      M-TOLUIDINE COMPOUND WITH S-TRINITROBENZENE (1:1)/CN
E8      1      M-TOLUIDINE HOMOPOLYMER/CN
E9      1      M-TOLUIDINE NITRATE/CN
E10     1      M-TOLUIDINE, ((2-CHLORO-4-(METHYLSULFONYL) PHENYL) AZO) -N, N-DI
          METHYL-/CN
E11     1      M-TOLUIDINE, (2,4-THIOPHENEDIYLBIS (AZO)) DI-/CN
E12     1      M-TOLUIDINE, .ALPHA.,.ALPHA.,.ALPHA.,-TRIFLUORO-6-( (O-NITROP
          HENYL) THIO)-/CN

```

=> s e3

L16 1 M-TOLUIDINE/CN

=> file hcaplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

5.69

429.64

FILE 'HCAPLUS' ENTERED AT 09:50:42 ON 07 SEP 2004

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FILE COVERS 1907 - 7 Sep 2004 VOL 141 ISS 11

FILE LAST UPDATED: 6 Sep 2004 (20040906/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l16

L17 4779 L16

=> d his

(FILE 'HOME' ENTERED AT 09:38:44 ON 07 SEP 2004)

FILE 'REGISTRY' ENTERED AT 09:38:49 ON 07 SEP 2004

FILE 'CASREACT' ENTERED AT 09:43:04 ON 07 SEP 2004

L1 STRUCTURE UPLOADED

L2 0 S L1

L3 0 S L1 FULL

L4 STRUCTURE UPLOADED

FILE 'REGISTRY' ENTERED AT 09:46:10 ON 07 SEP 2004

L5 STRUCTURE UPLOADED
L6 0 S L5
L7 8 S L5 FULL

FILE 'HCAPLUS' ENTERED AT 09:46:31 ON 07 SEP 2004

L8 12 S L7/PREP

FILE 'REGISTRY' ENTERED AT 09:46:37 ON 07 SEP 2004

L9 STRUCTURE UPLOADED
L10 1 S L9
L11 22 S L9 FULL

FILE 'HCAPLUS' ENTERED AT 09:48:42 ON 07 SEP 2004

L12 27 S L11/RCT
L13 9 S L12 AND L8

FILE 'REGISTRY' ENTERED AT 09:48:56 ON 07 SEP 2004

L14 STRUCTURE UPLOADED
L15 8 S L14
E M-TOLUIDINE/CN
L16 1 S E3

FILE 'HCAPLUS' ENTERED AT 09:50:42 ON 07 SEP 2004

L17 4779 S L16

=> s l17 and l13

L18 5 L17 AND L13

=> d l18, ihib abs hitstr, 1-5

L18 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2004 ACS on STN

Full
Text

DATE
References

ACCESSION NUMBER: 2003:931332 HCAPLUS
DOCUMENT NUMBER: 139:395829
TITLE: Process for the preparation of highly pure torsemide
INVENTOR(S): Gutman, Arie; Etinger, Marina; Goldring, Dmitry;
Pertsikov, Boris; Yudovitch, Lev; Tishin, Boris;
Vilensky, Alexander; Glozman, Alexander; Nisnevich,
Gennady
PATENT ASSIGNEE(S): Finetech Laboratories Ltd., Israel
SOURCE: PCT Int. Appl., 63 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003097603	A1	20031127	WO 2003-IL311	20030415
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
 CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC,
 NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
 GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

IL 2002-149771

A 20020521

OTHER SOURCE(S):

CASREACT 139:395829

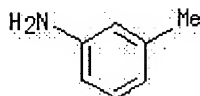
AB The present invention provides a novel process for the prepn. of highly pure torsemide by reacting of 4-m-tolylamino-3-pyridinesulfonamide with Ph isopropylcarbamate in the presence of lithium base. The present invention also provides a novel intermediate - torsemide lithium, also in hydrate or solvate form - which is a stable, solid compd., and may be simply isolated from the reaction mixt. to give after acidification practically pure torsemide without further purifn. steps.

IT 108-44-1, m-Toluidine, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
 (in prepn. of highly pure torsemide)

RN 108-44-1 HCAPLUS

CN Benzenamine, 3-methyl- (9CI) (CA INDEX NAME)



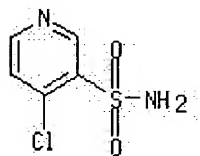
IT 33263-43-3P, 4-Chloro-3-pyridinesulfonamide 72811-73-5P

160822-47-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP
 (Preparation); RACT (Reactant or reagent)
 (in prepn. of highly pure torsemide)

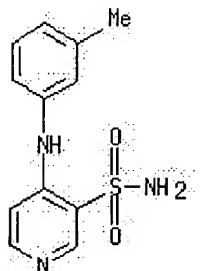
RN 33263-43-3 HCAPLUS

CN 3-Pyridinesulfonamide, 4-chloro- (8CI, 9CI) (CA INDEX NAME)



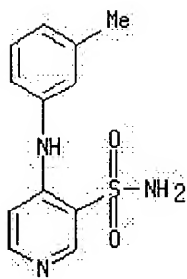
RN 72811-73-5 HCAPLUS

CN 3-Pyridinesulfonamide, 4-[(3-methylphenyl)amino]- (9CI) (CA INDEX NAME)



RN 160822-47-9 HCAPLUS

CN 3-Pyridinesulfonamide, 4-[(3-methylphenyl)amino]-, monohydrochloride (9CI)
 (CA INDEX NAME)



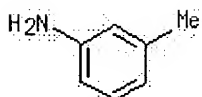
.HCl

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

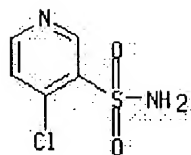
L18 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text	Cited References
--------------	---------------------

ACCESSION NUMBER: 2003:311134 HCAPLUS
 DOCUMENT NUMBER: 139:197336
 TITLE: Synthesis of a new, curative and effective medicine for hypertension and diuretic torasemide
 AUTHOR(S): Xiong, Zhenhu; Fei, Xuening
 CORPORATE SOURCE: Tianjin Institute of Urban Construction, Tianjin, 300384, Peop. Rep. China
 SOURCE: Zhongguo Yaowu Huaxue Zazhi (2002), 12(4), 219-221, 224
 CODEN: ZYHZEJ; ISSN: 1005-0108
 PUBLISHER: Zhongguo Yaowu Huaxue Zazhi Bianjibu
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese
 OTHER SOURCE(S): CASREACT 139:197336
 AB Torasemide was prepd. in 5 steps with high yield from 4-hydroxypyridine by sulfonation, chlorination, amidation, substitution with 3-methylaniline, and condensation with iso-Pr isocyanate.
 IT 108-44-1, m-Toluidine, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (synthesis of torasemide)
 RN 108-44-1 HCAPLUS
 CN Benzenamine, 3-methyl- (9CI) (CA INDEX NAME)

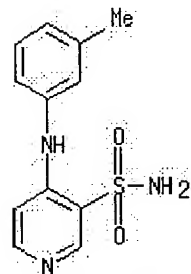


IT 33263-43-3P, 4-Chloropyridine-3-sulfonamide 72811-73-5P, 3-Pyridinesulfonamide, 4-[(3-methylphenyl)amino]-
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (synthesis of torasemide)
 RN 33263-43-3 HCAPLUS
 CN 3-Pyridinesulfonamide, 4-chloro- (8CI, 9CI) (CA INDEX NAME)



RN 72811-73-5 HCAPLUS

CN 3-Pyridinesulfonamide, 4-[(3-methylphenyl)amino]- (9CI) (CA INDEX NAME)



L18 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2004 ACS on STN



ACCESSION NUMBER: 1995:301468 HCAPLUS
 DOCUMENT NUMBER: 122:105616
 TITLE: Chemical structure and physico-chemical properties of torasemide
 AUTHOR(S): Kondo, Nobuo; Kimura, Masazo; Yamamoto, Madoka; Hashimoto, Hirotaka; Kawamata, Ken-ichiro; Kawano, Kensuke; Schmidt, Heinrich
 CORPORATE SOURCE: New Product Res. Laboratories, Green Cross Corp., Hirakata, 573, Japan
 SOURCE: Iyakuhin Kenkyu (1994), 25(9), 734-50
 CODEN: IYKEDH; ISSN: 0287-0894
 PUBLISHER: Nippon Koteisho Kyokai
 DOCUMENT TYPE: Journal
 LANGUAGE: Japanese

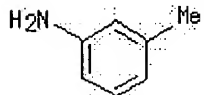
AB The chem. structure of torasemide, a diuretic agent, was confirmed on the basis of elemental anal., UV, IR, NMR and mass spectra. The physico-chem. properties were clarified by studying the appearance, soly., hygroscopicity, photo-stability, m.p., thermal anal., pH of aq. soln., disson. const., partition coeff., polymorphism, specific optical rotation and impurities. Investigations into the stability of torasemide under severe conditions were also conducted to define the degradative pathway for the compd.

IT 108-44-1, reactions 33263-43-3, 4-Chloropyridine-3-sulfonamide

RL: **RCT (Reactant)**; RACT (Reactant or reagent)
 (synthesis and physico-chem. properties of torasemide)

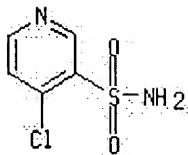
RN 108-44-1 HCAPLUS

CN Benzenamine, 3-methyl- (9CI) (CA INDEX NAME)



RN 33263-43-3 HCAPLUS

CN 3-Pyridinesulfonamide, 4-chloro- (8CI, 9CI) (CA INDEX NAME)



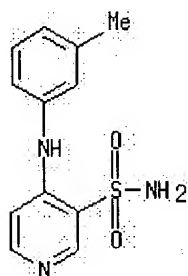
IT 72811-73-5P 160822-47-9P

RL: RCT (Reactant); SPN (Synthetic preparation); **PREP****(Preparation)**; RACT (Reactant or reagent)

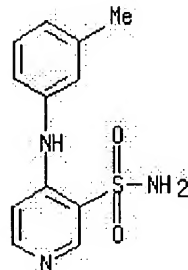
(synthesis and physico-chem. properties of torasemide)

RN 72811-73-5 HCAPLUS

CN 3-Pyridinesulfonamide, 4-[(3-methylphenyl)amino]- (9CI) (CA INDEX NAME)



RN 160822-47-9 HCAPLUS

CN 3-Pyridinesulfonamide, 4-[(3-methylphenyl)amino]-, monohydrochloride (9CI)
(CA INDEX NAME)

HCl

L18 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text	CHEM References
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ACCESSION NUMBER:

1988:160942 HCAPLUS

DOCUMENT NUMBER:

108:160942

TITLE:

Chemistry and pharmacological properties of the
pyridine-3-sulfonylurea derivative torasemide
Delarge, J.

AUTHOR(S):

CORPORATE SOURCE:

Inst. Pharm., State Univ. Liege, Liege, B-4000, Belg.

SOURCE:

Arzneimittel-Forschung (1988), 38(1A), 144-50

CODEN: ARZNAD; ISSN: 0004-4172

DOCUMENT TYPE:

Journal

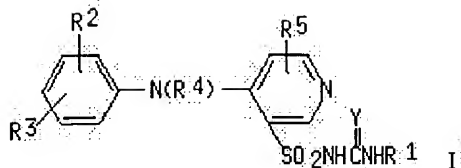
LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 108:160942

GI

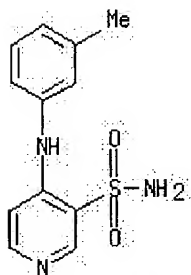


AB Out of a series of pyridine-3-sulfonylureas (I; R1 = Me, Et, Pr, etc.; R2 = 3-CF3, 3-NO2, 3-MeO, 3-Me, 3-Et, 2-, 3-, 4-Cl, etc.; R3 = H or 4-, 5-Cl; R4 = R5 = H or Me; Y = O or S) with diuretic activity torasemide (I; R1 = i-Pr, R2 = 3-Me, R3 = R4 = R5 = H, Y = O), which was prepd., proved to be one of the most active derivs. In the rat, urinary vol. and electrolyte excretions increased linearly with the logarithm of the dose, thus resembling the profile of a high ceiling diuretic. Torasemide was equally potent both by oral and parenteral administration. Compared to furosemide, torasemide was 9-40 times more potent on wt. basis in the rat. For the same natriuretic effect, however, K⁺ losses with torasemide were less than with furosemide. The diuretic effect of torasemide lasted longer than that of furosemide. The plasma elimination half-life of torasemide was ~1.5 h in the rat and bioavailability was nearly complete. Torasemide was 98-99% bound to plasma proteins. No in vitro interaction was found with the coumarin deriv. warfarin.

IT 72811-73-5P, 3-Sulfonamido-4-(3-methylanilino)pyridine
 RL: RCT (Reactant); SPN (Synthetic preparation); **PREP**
 (**Preparation**); RACT (Reactant or reagent)
 (prepn. and reaction with isopropylcyanate)

RN 72811-73-5 HCAPLUS

CN 3-Pyridinesulfonamide, 4-[(3-methylphenyl)amino]- (9CI) (CA INDEX NAME)

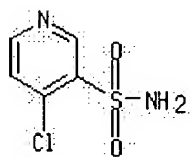


IT 33263-43-3P

RL: **RCT (Reactant)**; SPN (Synthetic preparation); **PREP**
 (**Preparation**); RACT (Reactant or reagent)
 (prepn. and reaction with toluidine or isopropylcyanate)

RN 33263-43-3 HCAPLUS

CN 3-Pyridinesulfonamide, 4-chloro- (8CI, 9CI) (CA INDEX NAME)

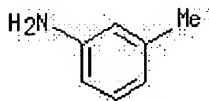


IT 108-44-1, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with chloropyridinesulfonamide or
 isopropylchloropyridylsulfonylurea)

RN 108-44-1 HCAPLUS

CN Benzenamine, 3-methyl- (9CI) (CA INDEX NAME)



L18 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2004 ACS on STN

Full Text	Chemical References
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ACCESSION NUMBER: 1976:59218 HCAPLUS
 DOCUMENT NUMBER: 84:59218
 TITLE: Pyridine derivatives
 INVENTOR(S): Delarge, Jacques E.; Lapiere, Charles L.; Georges, Andre H.
 PATENT ASSIGNEE(S): Christiaens, A., S. A., Belg.
 SOURCE: Ger. Offen., 39 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2516025	A1	19751106	DE 1975-2516025	19750412
DE 2516025	C2	19881103		
ZA 7502243	A	19760331	ZA 1975-2243	19750408
BE 827844	A1	19751013	BE 1975-155330	19750411
ES 436581	A1	19770401	ES 1975-436581	19750414
IL 47084	A1	19790131	IL 1975-47084	19750414
SE 7504409	A	19751020	SE 1975-4409	19750416
SE 424320	B	19820712		
SE 424320	C	19821021		
NL 7504521	A	19751021	NL 1975-4521	19750416
NL 183580	B	19880701		
NL 183580	C	19881201		
FR 2267775	A1	19751114	FR 1975-11791	19750416
FR 2267775	B1	19781110		
US 4018929	A	19770419	US 1975-568759	19750416
AT 7502882	A	19771115	AT 1975-2882	19750416
AT 345832	B	19781010	AT 1977-1898	19750416
CH 609045	A	19790215	CH 1975-4857	19750416
CH 610890	A	19790515	CH 1978-2163	19750416
CH 612424	A	19790731	CH 1978-2164	19750416
CA 1070313	A1	19800122	CA 1975-224805	19750416
JP 50142571	A2	19751117	JP 1975-47371	19750417
JP 59051536	B4	19841214		
DD 121936	C	19760905	DD 1975-185508	19750417
DD 126887	C	19770817	DD 1975-194800	19750417
US 4042693	A	19770816	US 1976-694422	19760609
US 4055650	A	19771025	US 1976-694421	19760609
ES 453328	A1	19771101	ES 1976-453328	19761115
ES 453327	A1	19771116	ES 1976-453327	19761115
ES 453329	A1	19771116	ES 1976-453329	19761115
AT 7701899	A	19771115	AT 1977-1899	19770318
AT 7701897	A	19771115	AT 1977-1897	19770318
SE 7907618	A	19790913	SE 1979-7618	19790913
US 30633	E	19810602	US 1980-119601	19800207

PRIORITY APPLN. INFO.:

<u>GB 1974-16836</u>	19740417
<u>GB 1975-16836</u>	19750414
<u>AT 1975-2882</u>	19750416
<u>US 1975-568759</u>	19750416
<u>US 1979-31101</u>	19790418

GI For diagram(s), see printed CA Issue.

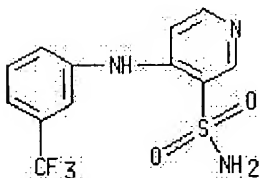
AB Pyridinesulfonamides I [R = C₆H₄R₃ (R₃ = Cl, F₃C, Me, MeO, H, Br, F, NO₂, Et, NH₂), Et, iso-Pr, 4-methylfuryl, C₆H₃Cl₂, C₆H₃(CF₃)Cl; R₁ = alkylcarbamoyl, cyclohexylcarbamoyl, CSNHCH₂CH:CH₂, CONHPh, CONHC₆H₄Cl-p, alkylthiocarbamoyl, H, COEt; R₂ = H, Me; X = NH, NMe, O, S, NEt; n = 0, 1], useful as inflammation inhibitors and diuretics, were prepd. by various methods, e.g., treatment of I (R₁ = H) with an isocyanate or isothiocyanate. Reaction of I (R₁ = H) with an alkyl haloformate, then with an amine, gave I (R₁ = substituted carbamoyl). II reacted with amines R₅NHR to give I (X = NH, NMe, NEt). II was treated with NaXR (R = substituted phenyl, X = O, S) to give the corresponding I. To prep. I (R₁ = acyl) or pyridothiadiazole III, I (R₁ = H) was reacted with EtCOCl, (EtCO)₂O, or BzCl. Treatment of I (R = alkylthiocarbamoyl) with aq. alc. Na₂CO₃ and HgO gave I (R₁ = alkylcarbamoyl). Oxidn. of I (n = 0) gave I (n = 1). I caused 1.6-92.0% inhibition of carrageenan-induced edema in rats [best results by I (R = 3,4-Cl₂C₆H₃, R₁ = CONHCHMe₂, X = NH, R₂ = H, n = 0) and caused 3.6-106.4 mg/kg increase in urine of rats [best results by I (R = 3-F₃CC₆H₄, R₁ = CONHET, X = NH, R₂ = H, n = 1)].

IT 38030-43-2P

RL: RCT (Reactant); SPN (Synthetic preparation); **PREP**
(Preparation); RACT (Reactant or reagent)
 (prepn. and reactions of)

RN 38030-43-2 HCAPLUS

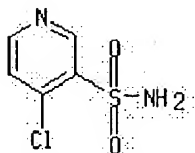
CN 3-Pyridinesulfonamide, 4-[[3-(trifluoromethyl)phenyl]amino]- (9CI) (CA INDEX NAME)

IT 33263-43-3

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with chlorophenol)

RN 33263-43-3 HCAPLUS

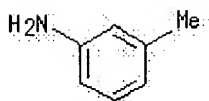
CN 3-Pyridinesulfonamide, 4-chloro- (8CI, 9CI) (CA INDEX NAME)

IT 108-44-1

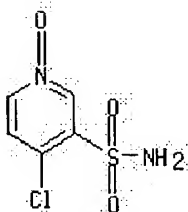
RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with chloropyridinesulfonamide oxide)

RN 108-44-1 HCAPLUS

CN Benzenamine, 3-methyl- (9CI) (CA INDEX NAME)

IT 58155-57-0RL: **RCT (Reactant)**; RACT (Reactant or reagent)
(reaction of, with toluidine)RN 58155-57-0 HCAPLUS

CN 3-Pyridinesulfonamide, 4-chloro-, 1-oxide (9CI) (CA INDEX NAME)



=> d his

(FILE 'HOME' ENTERED AT 09:38:44 ON 07 SEP 2004)

FILE 'REGISTRY' ENTERED AT 09:38:49 ON 07 SEP 2004

FILE 'CASREACT' ENTERED AT 09:43:04 ON 07 SEP 2004

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 L3 0 S L1 FULL
 L4 STRUCTURE UPLOADED

FILE 'REGISTRY' ENTERED AT 09:46:10 ON 07 SEP 2004

L5 STRUCTURE UPLOADED
 L6 0 S L5
 L7 8 S L5 FULL

FILE 'HCAPLUS' ENTERED AT 09:46:31 ON 07 SEP 2004

L8 12 S L7/PREP

FILE 'REGISTRY' ENTERED AT 09:46:37 ON 07 SEP 2004

L9 STRUCTURE UPLOADED
 L10 1 S L9
 L11 22 S L9 FULL

FILE 'HCAPLUS' ENTERED AT 09:48:42 ON 07 SEP 2004

L12 27 S L11/RCT
 L13 9 S L12 AND L8

FILE 'REGISTRY' ENTERED AT 09:48:56 ON 07 SEP 2004

L14 STRUCTURE UPLOADED
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 E M-TOLUIDINE/CN
 L16 1 S E3

FILE 'HCAPLUS' ENTERED AT 09:50:42 ON 07 SEP 2004

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 L18 5 S L17 AND L13

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159 CHE, D?/AU
 L19 0 L18 AND CHE, D?/AU
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 5 GUNTOORI, B?/AU
 L20 0 L18 AND GUNTOORI, B?/AU

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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
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 FILE LAST UPDATED: 01 May 1997 (19970501/UP)

This file contains CAS Registry Numbers for easy and accurate substance identification. Title keywords, authors, patent assignees, and patent information, e.g., patent numbers, are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE display formats.

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FILE 'CASREACT' ENTERED AT 09:43:04 ON 07 SEP 2004

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 L3 0 S L1 FULL
 L4 STRUCTURE UPLOADED

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L5 STRUCTURE UPLOADED
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 L7 8 S L5 FULL

FILE 'HCAPLUS' ENTERED AT 09:46:31 ON 07 SEP 2004

L8 12 S L7/PREP

FILE 'REGISTRY' ENTERED AT 09:46:37 ON 07 SEP 2004

L9 STRUCTURE UPLOADED
L10 1 S L9
L11 22 S L9 FULL

FILE 'HCAPLUS' ENTERED AT 09:48:42 ON 07 SEP 2004
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L13 9 S L12 AND L8

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 E M-TOLUIDINE/CN
L16 1 S E3

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L18 5 S L17 AND L13
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L20 0 S L18 AND GUNTOORI, B?/AU
L21 0 S L18 AND DUNCAN, S?/AU

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